



# **CALIFORNIA HIGH-SPEED RAIL AUTHORITY**

**November 1, 2012**

**Approach to Environmental Mitigation, Project  
Enhancements, and Agency Agreements**

# APPROACH TO ENVIRONMENTAL MITIGATION

- Project construction and operation will generate both regional benefits and environmental impacts:
  - Regional Benefits – more transportation options, less reliance on auto travel, improved air quality, energy savings, economic growth
  - Environmental Impacts – traffic near HST stations, emissions from construction equipment, conversion of agricultural land to non-agricultural use, loss of biological habitat
- Through project design, the Authority has emphasized features to avoid, reduce and minimize adverse impacts

# APPROACH TO ENVIRONMENTAL MITIGATION

- Incorporate design features to avoid or minimize environmental impacts
- Implement mitigation measures that reduce or eliminate identified impacts
- Incorporate project enhancements - where feasible - to enhance the environment and to meet common state objectives

# APPROACH TO ENVIRONMENTAL MITIGATION

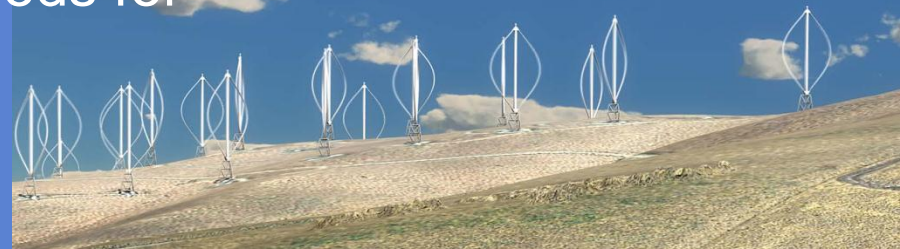
- Sample Design Features
  - Protect public roadways and railroads during construction
  - Cover trucks to reduce dust emissions while hauling soil and other materials
  - Fund research on the wind and noise effects of HST operations on agricultural activities
  - Maintain pre-project hydrology by avoiding increased flows from the project site
  - Limit fueling (and other activities using hazardous materials) to areas away from surface water

# APPROACH TO ENVIRONMENTAL MITIGATION

- Sample Mitigation Measures
  - Maintain property access to mitigate for road closures
  - Modify local intersections to improve traffic operations
  - Reduce emissions from construction equipment and on-road vehicles
  - Offset construction air quality emissions through a Voluntary Emissions Reduction Agreement (VERA)
  - Preserve the total amount of “Important Farmland”
  - Provide onsite biologist to monitor construction and mitigation activities
  - Implement a Restoration and Revegetation Plan

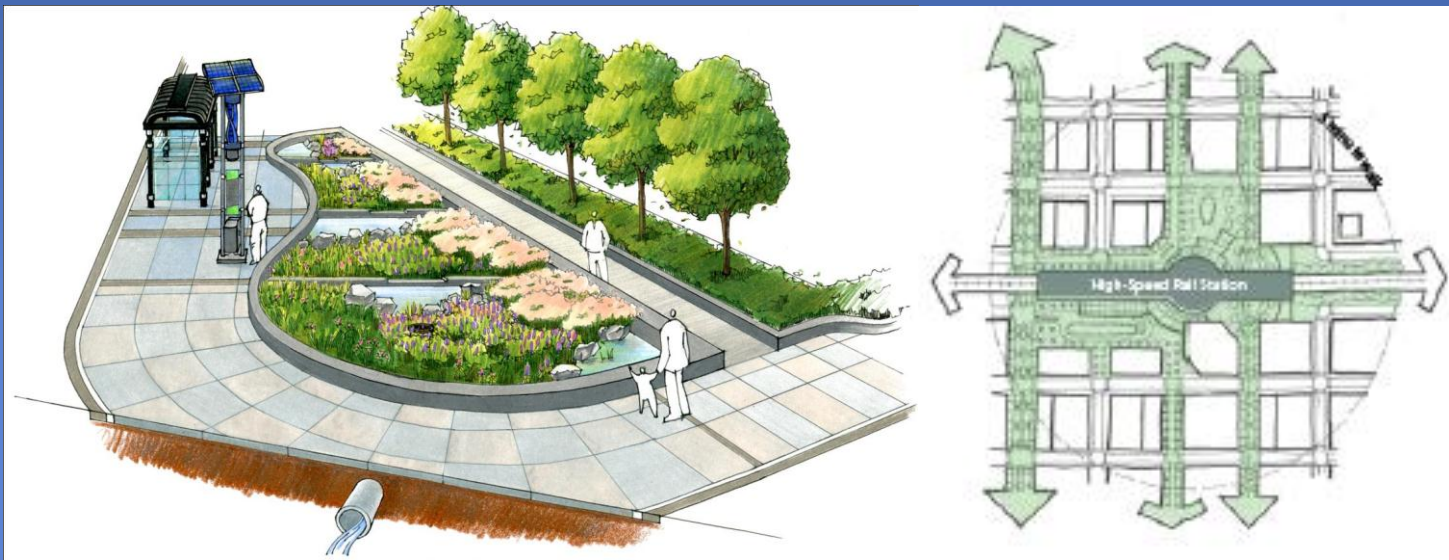
# APPROACH TO ENVIRONMENTAL MITIGATION

- Sample Project Enhancements:
  - Source renewable energy for traction power and facility operations from CA-based renewable energy producers
  - Prioritize use of recycled materials in infrastructure and facilities
- Design, build, and operate:
  - Facilities that achieve the highest levels of energy and water performance
  - Resilient systems and facilities that will flexibly serve community needs for decades to come



# APPROACH TO ENVIRONMENTAL MITIGATION

- Project Enhancements (Continued):
  - Integrate stations into communities – serving as both transportation hubs and a node of sustainable development
  - Require use of low impact development measures for complying with water quality requirements
  - Investigate community energy approaches centered on station sites



# APPROACH TO ENVIRONMENTAL MITIGATION

- Interagency agreements are needed prior to project construction to implement many of the mitigation measures
- Agreements include:
  - CA Department of Conservation
    - *preserve in perpetuity +/- 1,400 acres for continued agricultural use (Merced to Fresno)*
  - San Joaquin Valley Air Pollution Control District
    - Achieve a *net zero increase in emissions* during construction,
    - Achieve a *net improvement in regional air quality* during project operation, and
    - Achieve a *reduction* in greenhouse gases



# APPROACH TO ENVIRONMENTAL MITIGATION

- Agreements (continued):
  - U.S. Army Corps of Engineers
    - Achieve a *no net loss* to wetlands and aquatic resources
  - U.S. Fish and Wildlife Service; National Marine Fisheries Service
    - *Avoid, minimize, or reduce harm* to endangered/ threatened species
  - CA Department of Fish and Game
    - *Fully mitigate* for state endangered/threatened species

# APPROACH TO ENVIRONMENTAL MITIGATION

- Agreements (continued):
  - State Water Resources Control Board
    - *Comply with water quality requirements* through design standards during construction and operation of the train
- Central Valley Flood Protection Board
  - *Avoid, minimize or reduce* stream flow impacts to existing flood protection facilities

# APPROACH TO ENVIRONMENTAL MITIGATION

- Next Steps:
  - Continue discussions with regional, state and federal agencies on agreements
  - First agreement ready for Board review and approval - CA Department of Conservation
  - Remaining agreements to be ready for Board review beginning early 2013

# Questions?